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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/195,129	11/18/1998	JIAN ZHOU	A-66713/WSG/	3991

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MORGAN, LEWIS & BOCKIUS, LLP.
3300 HILLVIEW AVENUE
PALO ALTO, CA 94304

EXAMINER

GRIER, LAURA A

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/23/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/195,129

Applicant(s)

ZHOU ET AL.

Examiner

Laura A Grier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 19 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Terminal Disclaimer

2. A double patenting rejection was made in the 1st Office Action regarding this case, paper no. 8, mailed 4/01/02. A terminal disclaimer was not filed. Appropriate action is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 4-18, and 20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4 and 15 recites the limitation "seventh set of instructions". There is insufficient antecedent basis for this limitation in the claim.

Regarding **claim 4 and 15**, respectively, both claims fails to provide a "sixth set of instructions", the interpretation of the claim language is indefinite.

Regarding **claims 5-7**, the claims depend from claim 4.

Regarding **claim 8-10, 13, 15, and 20**, respectively, recite "a type of USB (Universal Serial Bus) loudspeaker". It unclear as to what defines the "type" of USB speaker. Given the

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name, "USB loudspeaker", the name itself defines the type of speaker. Thus the claim is indefinite.

Regarding **claims 11-12**, the claims depend from claim 10.

Regarding **claim 14**, it claim depends from claim 13.

Regarding **claims 16-18**, it claim depends from claim 15.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-2, and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tran et al., U. S. Patent No. 6359987 in view of Hildebrand, and further in view of Gambacurta et al., U. S. Patent No. 4939782.

Regarding **claim 1**, Tran et al. (herein, Tran) discloses a multimedia speaker detection circuit comprising a memory (ROM) for storing instructions for enabling a computer to determine the type speaker (20) connected within the unit, and applying the appropriate equalization thereto (col. 4, lines 19-67, col. 5, lines 1-8, 41-45, and 49-51), which indicates a 1st set of instruction to automatically determine a type of a speaker of the computer. However, Tran fails to specifically disclose sets of instruction for selecting a set of filter coefficients for a digital filter, realizing a parametric equalizer, therein.

Regarding the a set of filter coefficients, and parametric equalizer, in a similar field of endeavor, Hildebrand discloses a method and apparatus for digital filtering of audio signals. Hildebrand's disclosure comprises a computer program in a Program ROM for computing a digital filter of a digital equalizer, wherein the filter is generated based on the type of audio reproduction device and components that are need for adequate function of the device, and outputs a signal to a speaker or speaker system, wherein the device may be a multimedia computer with an accompanying speaker or speaker system which depends on the type of connectors and wiring being used to for proper installation and audio broadcasting via the speaker system (col. 7, lines 40-67 and col. 8, lines 1-11, 60-67, col. 9, lines 1-24 and col. 11, lines 1-9, and figures 2-6), which constitutes as instructions for selecting and/or generating a set of filter coefficients based on the speaker type, and providing a digital equalizer, which is parallel to a parametric equalizer with a digital filter.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Tran by implement computer program with instructions of generating a digital filter of a digital equalizer and thus providing a parametric equalizer for the purpose of enabling a computer to provide sufficient loudspeaker compensation to the various types of speakers that may be used by a computer to improve the sound quality of the audio system.

Hildebrand disclose the equalizer may comprise one or more filters, however, Tran and Hildebrand fail to specifically disclose the parametric equalizer comprising a plurality of equalizer bands, therein.

Regarding the equalizer having one or more filters, in a similar field of endeavor, Gambacurta et al. (herein, Gam) discloses a multi-band graphic equalizer (parametric equalizer) comprising filter (band-pass) element for implementing a plurality parametric frequency response elements (col. 2, lines 33-64, col. 5, lines 1-9, 41-61 and col. 10, lines 25-29), which indicates the equalizer comprising one or more filters.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Tran and Hildebrand by implement a parametric equalizer with multi-band equalization for the purpose of optimizing the overall frequency response characteristics of an audio system or components such as speaker.

Regarding **claim 2**, Tran and Hildebrand and Gam (herein, Tran combination) disclose everything claimed as applied above (see claim 1). Hildebrand and Gam further discloses support of the operator or use providing filter/equalizer parameters and calculating a set of filter coefficients base on the parameter input by the operator/user (col. 10, lines 57-67 and col. 11, lines 1-33) – Hildebrand; and (col. 5, lines 59-68) – Gam.

Regarding claim 8, Tran discloses a multimedia speaker detection circuit comprising a memory (ROM) for storing instructions for enabling a computer to determine the type speaker (USB type, as evident by the use of the Universal Serial Bus) - (20) connected within the unit, and applying the appropriate equalization thereto (col. 4, lines 19-67, col. 5, lines 1-8, 41-45, and 49-51), which indicates a 1st set of instruction to automatically determine a 1st type of a speaker of the computer, and of a 2nd type. However, Tran fails to specifically disclose sets of instruction for selecting a set of filter coefficients for a digital filter, realizing a parametric equalizer, therein.

Regarding the a set of filter coefficients, and parametric equalizer, in a similar field of endeavor, Hildebrand discloses a method and apparatus for digital filtering of audio signals. Hildebrand's disclosure comprises a computer program in a Program ROM for computing a digital filter of a digital equalizer, wherein the filter is generated based on the type of audio reproduction device and components that are need for adequate function of the device, and outputs a signal to a speaker or speaker system, wherein the device may be a multimedia computer with an accompanying speaker or speaker system which depends on the type of connectors and wiring being used to for proper installation and audio broadcasting via the speaker system (col. 7, lines 40-67 and col. 8, lines 1-11, 60-67, col. 9, lines 1-24 and col. 11, lines 1-9, and figures 2-6), which constitutes as instructions for selecting and/or generating a set of filter coefficients based on the speaker type, and providing a digital equalizer, which is parallel to a parametric equalizer with a digital filter.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Tran by implement computer program with instructions of generating a digital filter of a digital equalizer and thus providing a parametric equalizer for the purpose of enabling a computer to provide sufficient loudspeaker compensation to the various types of speakers that may be used by a computer to improve the sound quality of the audio system.

Hildebrand disclose the equalizer may comprise one or more filters, however, Tran and Hildebrand fail to specifically disclose the parametric equalizer comprising a plurality of equalizer bands, therein.

Regarding the equalizer having one or more filters, in a similar field of endeavor, Gambacurta et al. (herein, Gam) discloses a multi-band graphic equalizer (parametric equalizer) comprising filter (band-pass) element for implementing a plurality parametric frequency response elements (col. 2, lines 33-64, col. 5, lines 1-9,41-61 and col. 10, lines 25-29), which indicates the equalizer comprising one or more filters.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Tran and Hildebrand by implement a parametric equalizer with multi-band equalization for the purpose of optimizing the overall frequency response characteristics of an audio system or components such as speaker.

Further, Hildebrand and Gam further discloses support of the operator or use providing filter/equalizer parameters and calculating a set of filter coefficients base on the parameter input by the operator/user (col. 10, lines 57-67 and col. 11, lines 1-33) – Hildrebrand; and (col. 5, lines 59-68) – Gam.

7. **Claims 3 and 19** are allowed.

8. Claims 4, 9-10, 13, 15, and 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

10. Claims 5-7, 11-12, 14, and 16-18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments, see paper no. 14, filed 12/3/03, with respect to the rejection(s) of claim(s) 1-2, 8, 13-14 under 102/103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tran, Hildebrand and Gambacurta, Jr. et al.

The applicant's argument are of specific regards to Hildrebrand failing to teach the determination of the speaker type and generating the appropriate filter response to provide a parametric equalizing comprising a digital filter. The rejection of the claims 1 and 8 is dependent upon a reference of prior art (Tran) that supports a software based system of a multimedia computer for automatically determining a speaker type and providing adjustments to the sound there to. Hildrebrand is maintained to support the Tran reference in regards to generating a digital filter of an equalizer based upon speaker data/type. And another reference of prior art Gam has been added as well to provide the teachings of a parametric equalizer comprising a multiband equalizer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

Or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the receptionist whose telephone number is (703) 305-4700.

LAG

June 17, 2004


MINSUN OH HARVEY
PRIMARY EXAMINER